

# Freewolny Włóczykij

- Gravity **7.8 BLG**
- ABV **3 %**
- IBU **23**
- SRM **3.7**
- Style **American Pale Ale**

## Batch size

- Expected quantity of finished beer **18.2 liter(s)**
- Trub loss **5 %**
- Size with trub loss **20 liter(s)**
- Boil time **60 min**
- Evaporation rate **10 %/h**
- Boil size **22 liter(s)**

## Mash information

- Mash efficiency **70 %**
- Liquor-to-grist ratio **3.5 liter(s) / kg**
- Mash size **10 liter(s)**
- Total mash volume **12.9 liter(s)**

## Steps

- Temp **72 C**, Time **70 min**

## Mash step by step

- Heat up **10 liter(s)** of strike water to **79.4C**
- Add grains
- Keep mash **70 min** at **72C**
- Sparge using **14.9 liter(s)** of **76C** water or to achieve **22 liter(s)** of wort

## Fermentables

| Type  | Name                | Amount         | Yield | EBC |
|-------|---------------------|----------------|-------|-----|
| Grain | Pale Ale            | 2 kg (69.9%)   | 80 %  | 8   |
| Grain | Strzegom Pilzneński | 0.21 kg (7.3%) | 80 %  | 4   |
| Grain | Weyermann - Caramel | 0.5 kg (17.5%) | 78 %  | 4   |
| Grain | Żytni               | 0.15 kg (5.2%) | 85 %  | 8   |

## Hops

| Use for | Name     | Amount | Time     | Alpha acid |
|---------|----------|--------|----------|------------|
| Boil    | Citra    | 5 g    | 15 min   | 13.5 %     |
| Boil    | Amarillo | 5 g    | 15 min   | 8.9 %      |
| Boil    | Simcoe   | 5 g    | 15 min   | 11.4 %     |
| Boil    | Citra    | 7 g    | 10 min   | 13.5 %     |
| Boil    | Amarillo | 5 g    | 10 min   | 8.9 %      |
| Boil    | Simcoe   | 5 g    | 10 min   | 11.4 %     |
| Boil    | Citra    | 18 g   | 0 min    | 13.5 %     |
| Boil    | Amarillo | 20 g   | 0 min    | 8.9 %      |
| Boil    | Simcoe   | 20 g   | 0 min    | 11.4 %     |
| Dry Hop | Citra    | 30 g   | 4 day(s) | 13.5 %     |
| Dry Hop | Amarillo | 30 g   | 4 day(s) | 8.9 %      |
| Dry Hop | Simcoe   | 30 g   | 4 day(s) | 11.4 %     |

## Yeasts

| Name  | Type | Form | Amount | Laboratory |
|-------|------|------|--------|------------|
| US-05 | Ale  | Dry  | 11.5 g | ---        |